



Chief Reader Report on Student Responses: 2025 AP[®] Psychology Set 1 Free-Response Questions

• Number of Students Scored	334,960		
• Number of Readers	1005		
• Score Distribution	Exam Score	N	%At
	5	48,145	14.4
	4	103,524	30.9
	3	84,498	25.2
	2	65,882	19.7
	1	32,911	9.8
• Global Mean	3.20		

The following comments on the 2025 free-response questions for AP[®] Psychology were written by the Chief Reader, Elliott Hammer, Professor of Psychology at Xavier University of Louisiana. The comments give an overview of each free-response question and of how students performed on the question, including typical student errors. General comments regarding the skills and content that students frequently have the most problems with are included. Some suggestions for improving student preparation in these areas are also provided. Teachers are encouraged to attend a College Board workshop to learn strategies for improving student performance in specific areas.

Question 1

Task: Article Analysis Question

Topic: Misinformation Effect

Max Score: 7

	Max Points:	Mean Score:
Part A: Research Method	1	0.68
Part B: Research Variable	1	0.74
Part C: Statistic Interpretation	1	0.66
Part D: Ethical Guideline	1	0.85
Part E: Generalizability	1	0.74
Part D: Argumentation	2	1.45
Overall Mean Score:	4.97	

What were the responses to this question expected to demonstrate?

This Article Analysis Question (AAQ) provided students with a summary of a research study that explores the effect of misinformation on memory. The study connects to content found in the AP Psychology *Course and Exam Description* in Unit 2: Cognition. Responses are expected to demonstrate skills from Science Practices 2 (Research Methods and Design), 3 (Data Interpretation), and 4 (Argumentation).

- In **Part A: Research Method**, responses are expected to identify that the research method used in the study was an experiment.
- In **Part B: Research Variable**, responses are expected to state that the operational definition of high misinformation in the study was that 80% (or 32 out of 40) of the sentences in the narrative included incorrect information.
- In **Part C: Statistic Interpretation**, responses are expected to describe the high misinformation group as having produced a lower mean percentage of correct answers about the video (63%) than the low misinformation group (74%).
- In **Part D: Ethical Guideline**, responses are expected to identify informed consent as the ethical guideline applied by the researchers.
- In **Part E: Generalizability**, responses are expected to use specific and relevant evidence from the study to explain the extent to which the research findings are generalizable.
- In **Part F: Argumentation**, responses are expected to explain how at least one of the research findings supports or refutes the misinformation effect.

How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?

Overall, responses addressed course content well and integrated skills required for this question.

- In **Part A: Research Method**, most responses (75%) correctly identified the research method used in the study as an experiment.
- In **Part B: Research Variable**, many responses (69%) correctly stated that the operational definition of high misinformation in the study was that 80% (or 32 out of 40) of the sentences in the narrative included incorrect information.
- In **Part C: Statistic Interpretation**, many responses (65%) correctly described the high misinformation group as having a lower mean percentage of correct answers (63%) than the low misinformation group (74%) about the video.

- In **Part D: Ethical Guideline**, most responses (86%) correctly identified informed consent as the ethical guideline applied by the researchers.
- In **Part E: Generalizability**, most responses (78%) correctly used specific and relevant evidence from the study to explain the extent to which the research findings are generalizable. Responses that earned this point provided participant data, identified or alluded to a larger population, and explained why the data provided did or did not support the generalizability of the research findings. Responses could score this point by arguing for or against the generalizability of the findings if the response provided participant data, identified or alluded to a larger population, and explained why the data supported their claim about generalizability.
- In **Part F: Argumentation**, most responses (74%) earned at least 1 point. Some earned 1 point (26%), and almost half of the responses (48%) earned 2 points by explaining how at least one of the research findings supports or refutes the misinformation effect.
 - Responses earning 1 point either presented evidence from the study without an explanation or provided an explanation without any supporting evidence.
 - Responses earning 2 points provided evidence from the study and explained why the evidence supported or refuted the misinformation effect.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

<i>Common Misconceptions/Knowledge Gaps</i>	<i>Responses that Demonstrate Understanding</i>
Part A: Research Method	
• Responses that did not score this point most often identified a different research method (e.g., correlation, meta-analysis, naturalistic observation) or an element of research design (e.g., survey). • Some responses that did not score this point described the topic of the research study and not the methodology used.	• “The researchers used an experiment.” • “The researchers included a questionnaire in their experiment.” • “Since students were randomly assigned to groups, this was an experiment.”
Part B: Research Variable:	
• Responses that did not score this point did not state or describe the measurable or quantifiable definition used by the researchers. Often, these responses would describe the misinformation effect in general or that the topic of the study was misinformation.	• “The researchers operationally defined high misinformation as 80% of the sentences in the narrative including incorrect information.” • “The researchers defined high misinformation as a story having 32 misleading sentences in it.”

Part C: Statistic Interpretation	
• Responses that did not score this point merely reported the means or the mean difference as reported in the study. • Other responses that did not score this point inaccurately described what the difference in means indicated between the high misinformation group and the low misinformation group, usually by interpreting the results in the opposite direction. • Some responses that did not score this point defined the mean instead of describing what the mean difference indicated.	• <i>“The high misinformation group got less correct responses than the low misinformation group.”</i> • <i>“The group that got 80% misinformation relied on more misleading information than the group with 20% misinformation, since the mean averages of the high misinformation group was 63% compared to 74% for the low misinformation group.”</i> • <i>“The low misinformation group scored 11% higher in their correct responses than did the high misinformation group.”</i>
Part D: Ethical Guideline	
• Responses that did not score this point misidentified the ethical guideline applied in the study. Responses identified other ethical guidelines not explicitly presented in the summary (e.g., confidentiality, debriefing, or institutional review).	• <i>“The researchers obtained informed consent from the participants.”</i> • <i>“The article says that after the researchers obtained consent, the participants got to watch the video of the robbery.”</i>
Part E: Generalizability	
• Responses that did not score this point most often did not reference participant data to support whether the research findings were generalizable. • Some responses did not score this point because they referenced sample size or a methodological flaw as the explanation for why the study was or was not generalizable.	• <i>“The study is generalizable to a larger population because the participant sample was diverse.”</i> • <i>“The study is not generalizable because they only used university students in their study.”</i>

Part F: Argumentation		
• Responses that earned 0 points did not explain how the study supported or refuted the misinformation effect or explained the evidence they used for their argument inaccurately. • Responses that earned 1 point only presented evidence from the study or only provided an explanation why the study supported or refuted the misinformation without also providing evidence.	Examples that earn 1 point: • <i>“The high misinformation group answered more questions using misleading information.” [Evidence only.]</i> • <i>“This study supports the misinformation effect, which is when people remember incorrect information that is presented to them.” [Explanation without evidence.]</i>	Examples that earn 2 points: • <i>“The study showed that the misinformation effect is supported because the data shows that participants in the high misinformation group were more likely to use the misleading information when answering questions (30%) than those in the low misinformation group (19%).”</i> • <i>“This study provides evidence for the misinformation effect because it shows that when participants were exposed to a high level of misinformation, they were more likely to incorporate misleading information into their memories.”</i> • <i>“One of the research findings that refutes the misinformation effect is that the participants performed best if they had distrusted the accuracy of the summary. The more that they were presented with misinformation, the more distrustful that they were, which meant that they had resisted more information in comparison to those who didn’t receive as much misinformation.”</i>

Based on your experience at the AP[®] Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?

Students should focus on the task verbs used in the question (e.g., Identify, State, Describe, Explain). These task verbs help direct students about what to include in their response. Refer to the *AP Psychology Course and Exam Description* for the definition of each task verb (p. 150). In addition, have students focus on the specific and relevant information found in the source summary. Several of the correct responses are explicitly presented in the summary, so have students focus on those details as they read the summary.

- For **Part A: Research Method**, have students only provide the research method that the study uses. Students should not provide other methods to avoid contradicting themselves in their response. In preparing for writing the AAQ, students should review the key features of a study that differentiate the research method used (e.g., A key feature of an experiment is the manipulation of an independent variable across randomly assigned groups). Referring to other research design elements (i.e., survey,

random assignment, cross-sectional designs) are acceptable, but these elements alone are not sufficient to earn the point.

- For **Part B: Research Variable**, remind students that the operational definition is provided in the summary. Have students focus their responses on how the researchers administered or measured the variable. For instance, if a scale is used in the operational definition, have students include that in their responses since the scale provides part of the measurement data.
- For **Part C: Statistic Interpretation**, have students go beyond restating or defining the statistic. Have students include the specific information about the statistic as it is used in the study, making sure that they include the direction of the statistical relationship.
- For **Part D: Ethical Guidelines**, have students provide only the ethical guideline(s) explicitly stated in the summary. Referencing other guidelines is considered providing contradictory information and will not earn the point. Help students only reference ethical guidelines and not other research design elements from the summary to ensure they are demonstrating understanding of research ethics in their response.
- For **Part E: Generalizability**, help students remember to include specific and relevant information about the participants as they develop their responses. Students can reference a population that was well represented or underrepresented to indicate the “larger population” in their responses. Remind students that deciding a study can be “partly” generalizable requires students to defend both sides of the argument in their response.
- For **Part F: Argumentation**, help students provide a piece of specific and relevant evidence in their response along with an explanation of how that evidence supports or refutes the hypothesis or concept in the question. Remind students to connect their explanation back to the concept or hypothesis in the question clearly and directly. In this Part, students can demonstrate in their argumentation that they understand the topic of the study and any related concept in the question, so making sure their responses are clearly explained is a good strategy for success. The following is one effective approach to writing Part F: “*The researchers found that [cite one specific, relevant, and accurate piece of evidence from the study]. This evidence supports/refutes [restate the hypothesis or concept] because ... [provide explanation that connects back to the concept or hypothesis].*”

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

The Article Analysis Question provides opportunities for developing several key skills students need to be successful in AP Psychology and as they interact with psychological research. With the AAQ, students can learn how to identify what research methodology is used in a study, how the researchers operationalized variables, what basic statistics indicate, how ethical principles are applied in research, and whether a study’s findings can be generalized to a larger population. In addition, students can consider how a single research study informs a larger topic learned in AP Psychology, such as the misinformation effect for this question. These skills can help students think critically about psychological science and the application of research studies to their daily lives.

Teachers can find AAQs and accompanying scoring guidelines in AP Classroom for every unit in the course. Some of the questions in AP Classroom are partial AAQs, meaning teachers can use these to scaffold the questions with their students before providing full questions as the course progresses. Scaffolding the AAQ allows students to practice each part of the question in a focused way. Teachers can use the question parts of the AAQ for any summary of psychological research students encounter as they take this course. This type of repeated and interleaved practice can help students feel more confident on the AAQ as they progress through AP Psychology.

Additionally, teachers can modify parts of existing AAQs by choosing a different variable to operationalize or a different statistic to interpret. For this AAQ, teachers may want to ask students about other variables operationalized in the study, such as low misinformation or what was defined as “incorrect” information. Teachers may ask students to interpret other statistics, such as what the lack of difference in the incorrect response types across all groups’ mean percentages indicates, or what the differences in mean percentages indicate for the high and the medium misinformation groups. Teachers could also ask about how this study supports or refutes other concepts such as proactive interference or constructive memory. These types of question adaptations can serve as scaffolds, reteaching experiences, or variations to promote a secure testing environment.

Question 2

Task: Evidence-Based Question

Topic: Whether the Presence of Others Improves Performance

Max Score: 7

	Max Points:	Mean Score:
Part A: Claim	1	0.89
Part B(i): Evidence	1	0.88
Part B(ii): Reasoning	2	1.32
Part C(i): Evidence	1	0.81
Part C(ii): Reasoning	2	0.99
Overall Mean Score: 4.07		

What were the responses to this question expected to demonstrate?

This Evidence-Based Question (EBQ) provided students with a summary of three peer-reviewed research studies which explore how the presence of others influences performance on a task. The studies connect to content found in the *AP Psychology Course and Exam Description* in Unit 4: Social Psychology and Personality. Responses are expected to demonstrate skills from Science Practice 4 (Argumentation).

- In **Part A: Claim**, responses are expected to propose a defensible claim.
- In **Part B(i): Evidence**, responses are expected to use one piece of specific, relevant, and accurate evidence from one of the sources that supports the claim proposed in Part A.
- In **Part B(ii): Explanation and Application (Reasoning)**, responses that earn the first point are expected to explain how the evidence used in Part B(i) supports the claim proposed in Part A. Responses that earn the second point are expected to use a psychological perspective, theory, concept, or research finding as part of their explanation about how the evidence supports the claim proposed in Part A.
- In **Part C(i): Evidence**, responses are expected to use one piece of specific, relevant, and accurate evidence from a different source than the one used in Part B that supports the claim proposed in Part A.
- In **Part C(ii): Explanation and Application (Reasoning)**, responses that earn the first point are expected to explain how the evidence used in Part C(i) supports the claim proposed in Part A. Responses that earn the second point are expected to use a different psychological perspective, theory, concept, or research finding than the one used in Part B as part of their explanation about how the evidence supports the claim proposed in Part A.

How well did the responses address the course content related to this question? How well did the responses integrate the skill(s) required on this question?

Overall, most responses demonstrated the skills required for this question.

- In **Part A: Claim**, the vast majority of responses (94%) correctly provided a claim about whether the presence of others improved performance.
- In **Part B(i): Evidence**, most responses (86%) correctly used one piece of specific, relevant, and accurate evidence from one of the sources to support the claim proposed in Part A.
- In **Part B(ii): Explanation and Application (Reasoning)**, more than half of the responses (56%) earned at least 1 point on Part B(ii). Some responses (34%) earned the first point by explaining how the evidence used in Part B(i) supports the claim proposed in Part A. Other responses (22%) earned that first point but also earned the second point by correctly using a psychological perspective, theory, concept, or research finding as part of their explanation about how the evidence supports the claim proposed in Part A.

- In **Part C(i): Evidence**, most responses (84%) correctly used one piece of specific, relevant, and accurate evidence from a different source than the one used in Part B that supports the claim proposed in Part A.
- In **Part C(ii): Explanation and Application (Reasoning)**, half of the responses (50%) earned at least 1 point on Part C(ii). Some responses (36%) earned the first point by explaining how the evidence used in Part C(i) supports the claim proposed in Part A. Other responses (14%) also earned the second point by correctly using a different psychological perspective, theory, concept, or research finding than the one used in Part B as part of their explanation about how the evidence supports the claim proposed in Part A.

What common student misconceptions or gaps in knowledge were seen in the responses to this question?

Common Misconceptions/Knowledge Gaps	Responses that Demonstrate Understanding
Part A: Claim	
• Responses that did not earn this point provided a claim that was off topic. • Responses that did not earn this point provided a description of the topic instead of a claim.	• <i>“The presence of others makes a difference in whether someone performs well on a specific task or set of tasks.”</i> • <i>“When someone else is present during a performance, it is more likely that the participant will perform well.”</i> • <i>“The presence of others will make them do worse at what they are doing.”</i> • <i>“People should have an audience for tasks they are good at.”</i>

Part B(i): Evidence

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| <ul style="list-style-type: none">• Responses that did not earn this point provided no evidence from the sources.• Responses that did not earn this point provided no citation for the evidence.• Responses that did not earn this point provided evidence that was not specific and relevant, or was inaccurate (e.g., described the method instead of a research finding). | <ul style="list-style-type: none">• <i>“The results of the bar graph (Source 1) show a longer amount of time for participants to complete a new and difficult task in front of an audience than when they were alone.”</i>• <i>“According to Source 3, performance was improved when participants were observed by an evaluator and when they were monitored electronically.”</i>• <i>“According to Source 2, researchers found that the delayed reaction time was greatest for male baboons in the presence of older males with a higher social rank.”</i>• <i>“According to Source 1, participants were able to perform a well-learned task quicker than those who were alone.”</i> |
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Part B(ii): Explanation and Application (Reasoning)

- Responses that earned 0 points did not explain how the evidence supported the claim.
- Responses that earned 1 point did not correctly apply a psychological perspective, theory, concept, or research finding as part of their explanation of how the evidence supports the claim.

Examples that earn 1 point:

- *“The evidence demonstrates that the presence of others is generally helpful for improving performance, but if a task is difficult, performance can suffer.”*
- *“Since the time needed to complete the new and difficult task increased in the presence of others, this shows that the presence of others has a negative effect on performance.”*
- *“The studies show that if you are an expert at something, having an audience helps.”*

Examples that earn 2 points:

- *“The study showed that participants who completed the task when being observed detected more correct pairs than those who did it alone. This is called social facilitation.”*
- *“The reason for the delayed reaction times of younger male baboons was probably due to social norms. Because the younger males must be submissive to dominant older males, their awareness of that made their performance worse.”*
- *“The study showed that participants were able to perform a well-learned task such as putting on their socks quicker than those who were alone. This is an example of the Yerkes- Dodson Theory, which states that well-learned tasks can be performed well even if under high states of arousal such as being watched.”*

Part C(i): Evidence		
- Responses that did not earn this point provided no evidence from the sources. - Responses that did not earn this point provided no citation for the evidence. - Responses that did not earn this point provided evidence that was not specific and relevant, or was inaccurate (e.g., described the method instead of a research finding). - Responses that did not earn this point did not provide evidence from a different source than one that was used in Part B(i).	<i>“Source 3 shows that when people believe they are being monitored, either by a human or a web cam, they will perform better on a task than when they think they are not being monitored.”</i> <i>“Source 2 shows that when the baboons did the harder task, they did worse in the presence of other baboons.”</i> <i>“When participants were taking off and putting on their shoes, they did better with an audience (Source 1).”</i>	
Part C(ii): Explanation and Application (Reasoning)		
- Responses that earned 0 points did not explain how the evidence supported the claim. - Responses that earned 1 point did not correctly apply a different psychological perspective, theory, concept, or research finding as part of their explanation of how the evidence supports the claim.	Examples that earn 1 point: <i>“The research shows that being in the presence of others improves performance if you are doing a task that is well-learned.”</i> <i>The research shows that if you are doing something with superiors watching, you will do worse.”</i> <i>“The research shows that whether you are being watched live or by video, you will do better on an easy task such as subtraction.”</i>	Examples that earn 2 points: <i>“When doing an easy, well-learned task, like putting on or taking off your own shoes, people might be extrinsically motivated to complete the task better in order to get the approval of others.”</i> <i>“Since the baboons performed worse in front of an audience, that could be an example of increased distress, which could get in the way of their ability to complete a complex task.”</i> <i>“The participants in Source 3 did an easy task, such as subtraction, better when they were being watched directly than when they were alone. The participants were not affected by an imaginary audience where people think that others are watching and judging them.”</i>

Based on your experience at the AP[®] Reading with student responses, what advice would you offer teachers to help them improve student performance on the exam?

For the EBQ, students read three summaries of peer-reviewed research. In their responses, students make a claim, support that claim with evidence from two different sources, and explain why the evidence supports the claim while applying two different psychological concepts. As a first step, be sure students know what kind of claim the question is asking for. Then, encourage students to read all three sources before starting their response. As they read, encourage them to make notes throughout the sources, focusing on interesting results that might relate to the claim and which psychological concepts come to mind as they read. Make sure students note how the findings of each of the sources vary from each other or from what they would expect. The sources may provide contradictory findings about the topic, which students can keep in mind as they formulate their responses.

- For **Part A: Claim**, have students develop a claim that can anchor the rest of the response. The claim should be more than a topic sentence but can be a broad statement about how the variables studied connect to each other in ways that are supported by the evidence in the sources.
- For **Part B(i): Evidence**, guide students toward choosing evidence that is correctly cited, accurate, specific, and relevant to the claim. Students should focus their search for evidence on results from the study, not on how the study was conducted or who the participants were.
- For **Part B(ii): Explanation and Application (Reasoning)**, remind students that they are providing the link between their evidence and their claim with this Part, so explicitly referencing the evidence and the claim will help make sure their responses are clear.
 - To earn 1 point, have students provide an explanation for why the evidence supports the claim.
 - To earn 2 points, have students bolster their explanation using a psychological concept learned in AP Psychology. Remind students that providing only a definition of a related psychological concept is not sufficient to earn this point. To demonstrate their argumentation skills and their understanding of psychological science, students need to integrate the psychological concept into their explanation.
- For **Part C(i): Evidence**, guide students toward choosing a different piece of evidence that is correctly cited, accurate, specific, and relevant to the claim. Students should focus their search for a different piece of evidence on results from the study, not on how the study was conducted or who the participants were. The different piece of evidence should support the claim, not refute it.
- For **Part C(ii): Explanation and Application (Reasoning)**, remind students that they are providing the link between their different piece of evidence and their claim with this Part, so explicitly referencing the different piece of evidence and the claim will help make sure their responses are clear.
 - To earn 1 point, have students provide a different explanation for why the evidence supports the claim.
 - To earn 2 points, have students bolster their explanation using a different psychological concept learned in AP Psychology. Remind students that providing only a definition of a related psychological concept is not sufficient to earn this point. To demonstrate their argumentation skills and their understanding of psychological science, students need to integrate a different psychological concept into their explanation.

What resources would you recommend to teachers to better prepare their students for the content and skill(s) required on this question?

The Evidence-Based Question provides opportunities for developing argumentation skills students need to be successful in AP Psychology and as they interact with psychological research. With the EBQ, students can learn how to make a claim and use evidence and reasoning to support that claim. These skills can help students think critically about psychological science and the application of research studies to their daily lives.

Teachers can find EBQs and accompanying scoring guidelines in AP Classroom for every unit in the course. Teachers may want to scaffold the distinct skills demonstrated in the EBQs early in the course, which allows students to practice each part of the question in a focused way. For instance, teachers may want to have students practice generating claims as they read news reports of psychological studies. Teachers can have students evaluate evidence presented in those reports to determine whether the evidence supports or refutes what they've learned in AP Psychology. Teachers can also interleave content throughout the course to give students practice connecting content from one unit to other units. This type of practice can help students feel more confident on the EBQ as they progress through AP Psychology.

Additionally, teachers can modify the prompts of existing EBQs by choosing different ways to ask for a claim. For this EBQ, teachers may want to ask students to make a claim about how the presence of others hinders performance or how a supportive (or unsupportive) audience might influence performance. Teachers could also ask students to make claims about the role of group dynamics or social roles in behavior. These types of adaptations can serve as scaffolds, reteaching experiences, or variations to promote a secure testing environment.